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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,754	12/08/2003	Yukihisa Takeuchi	789_118 CIP	4467
25191	7590	05/17/2006	EXAMINER	
BURR & BROWN			GUHARAY, KARABI	
PO BOX 7068			ART UNIT	PAPER NUMBER
SYRACUSE, NY 13261-7068			2879	

DATE MAILED: 05/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/730,754

Applicant(s)

TAKEUCHI ET AL.

Examiner

Karabi Guharay

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment, filed on 2/23/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 1-13 is/are allowed.
- 6) ☒ Claim(s) 14-16 & 18-20 is/are rejected.
- 7) ☒ Claim(s) 17,21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/23/06.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

Response to Amendment

Amendment, filed on 2/23/06 has been considered and entered.

Amendment of Title has been acknowledged.

Amendment of Fig. 39 is approved.

Amendment of claim 13 overcomes the rejection of claim 13 under 35 USC 102(b).

Terminal Disclaimer

The terminal disclaimer filed on 23 February 2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted on application No. 10/877,517; 10/950,976; 10/901,932 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Objections

Claims 18-21 are objected to because of the following informalities:

(1) In line 7 of claim 18, coercive voltage is designated as "V1", and second coercive voltage is designated as V2, while at the end of the claim these are designated as v1 & v2. Since claim 14 designate V1 as the voltage to change to first stage (described in Fig 16). Appropriate corrections are required.

(2) Claim 18 recites $v2 < 0$, however, specification discloses that the second coercive voltage v2 is positive throughout the specification, and drawings shows v2 having a positive voltage. Thus it is not clear how $v2 < 0$. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 14-16 & 18-20 is rejected under 35 U.S.C. 102(e) as being anticipated by Takeuchi et al. (US 6946800).

Regarding claims 14 & 18, Takeuchi et al. disclose an emitter (see Fig 1) comprising a substance (14) serving as an emitter made of dielectric material and a first and second electrode (18, 20) to which a drive voltage is applied to emit electrons; wherein a first coercive voltage V_1 (V_f) is applied in one direction between said first electrode and said second electrode changes the electron emitter from a state in which said substance serving as the emitter is polarized in one direction to a state in which the polarization is inverted, and a second coercive voltage V_2 (V_0) is applied in another direction to change the polarization back in said one direction from said last-mentioned state, and the voltages are related to each other by $v_2 < 0$, and $|v_1| < |v_2|$ (lines 60-64 of column 21).

Regarding claims 15 & 19, Takeuchi et al. disclose that the $1.5 \times |v_1| < |v_2|$ (lines 66 of column 18-line 5 of column 19).

Regarding claim 16 & 20, Takeuchi teaches the claimed rate of change of polarization since $I_{v1} < I_{v2}$ (see rejection of claim 18).

Allowable Subject Matter

Claims 1-13 are allowed over the prior art of record.

Claims 17 & 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Examiner's Reasons for Allowance

The following is an examiner's statement of reason for allowance:

Regarding claim 1, the prior art of record neither shows nor suggests an electron emitter comprising all the limitations set forth in claim 1, particularly comprising first electrode having a surface which faces the substance serving as the emitter in peripheral portions of the through regions and which is spaced from the substance serving as the emitter.

Regarding claim 13, the prior art of record neither shows nor suggests an electron emitter comprising all the limitations set forth in claim 13, particularly comprising a first electrode having a bottom surface, only a portion of which is in contact with a first surface of the substance serving as the emitter, together with other cited limitations.

Claims 2-12 are allowed for the same reason as claim 1 for their dependency status from claim 1.

Art Unit: 2879

Other Prior Art Cited


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure : Adachi et al. (US 5631664).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (571) 272-2452. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (571) 273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Karabi Guharay
Primary Examiner
Art Unit 2879